

Case Report

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Muscular "Modus Agendi" and Craniomandibular Dysfunction

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It is very important to analyze the muscular "modus agendi" in diagnosing and treating dysfunctional problems. By identifying, then changing, the abnormal muscle posture and function, we are able to correct the muscular pathology and to start orofacial orthopedic treatment without the presence of dysfunctional counterforces.

In medicine today, the approach with our patients has to be holistic (global) both in diagnosis and in treatment. We cannot stop at the symptoms because we have to keep in mind that the disease does not exist in isolation. Effective treatment requires that the patient be reintegrated in his or her total sensorial, muscular, and nervous system function. Our therapy techniques and goals must result from a comprehensive and individual diagnosis which identifies all pathological components.

For their uninterrupted and multifactored function, temporomandibular joints (TMJ) have always been a cause of "croci e delizie" ("trouble and delight", a phrase from Verdi's *Traviata*). Complicated problems of the temporomandibular joints require early diagnosis to provide an early, stabilizing therapy.

Let us keep in mind that in temporomandibular joint dysfunction problems, pain is the last alarm level. Other symptoms and signals are earlier and easier to recognize—such as the weakening of certain muscles along with alterations of body proportions and posture, for example. These conditions must be identified and treated as soon as possible with posture readjustment, normal function must be established and preserved, and it must not be forgotten that there is always hope, at any age and in any physical condition.

The therapeutic action has to be holistic. This means that, in cases of oral dysfunctional problems, the treatment must begin with craniomandibular reposture. This can be achieved by intervening first on the "modus agendi" of the craniorachial (skull and spinal) musculature. We have to achieve occlusal reposture by acting on the total "modus agendi" of the orofacial musculature.

Physical therapy exercises begin with breathing

exercises. Change is achieved first without gravitational force and then with gravitational force. That is to say, we begin treatment with the patient lying down, then sitting, and, last, in a standing position.

It is useful to think of the human body as a mechanism composed of bone segments and joints, connected through dynamic and tonic myofascial chains (Fig 1). These can be open or closed according to the function they must provide, such as movement (long fascial muscles) (Fig. 2) and posture (short tonic muscles). (Fig. 3) The myofascial chain—via the hyoid bone and the occipital-atloid joint at the base of the skull—causes any movement of the head to result in postural changes and vice versa (fig. 4). Therefore, it appears that digestion and respiration changes involving the extremes of the rachial structures (the skull and the pelvic girdle) can

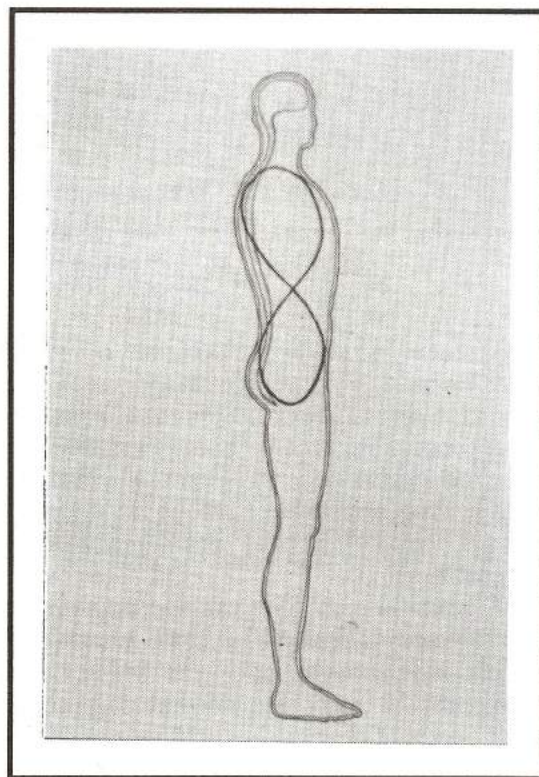


Figure 1 - Myofascial Chains

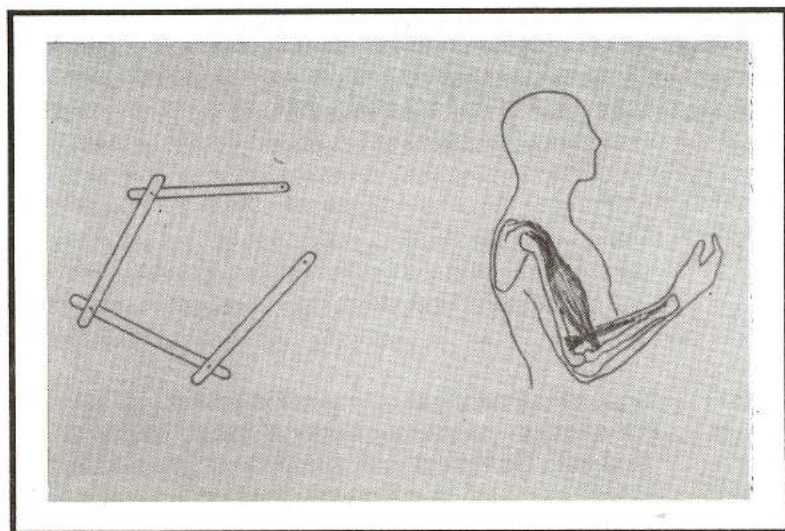


Figure 2 - Myofacial Opened Chains

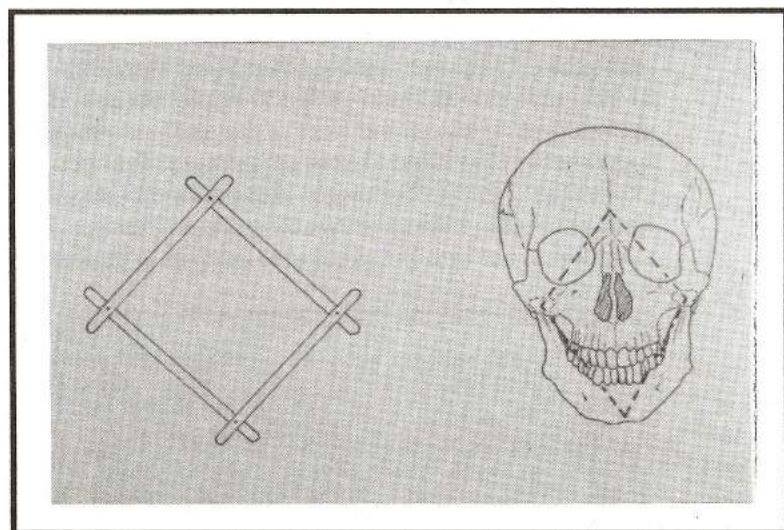
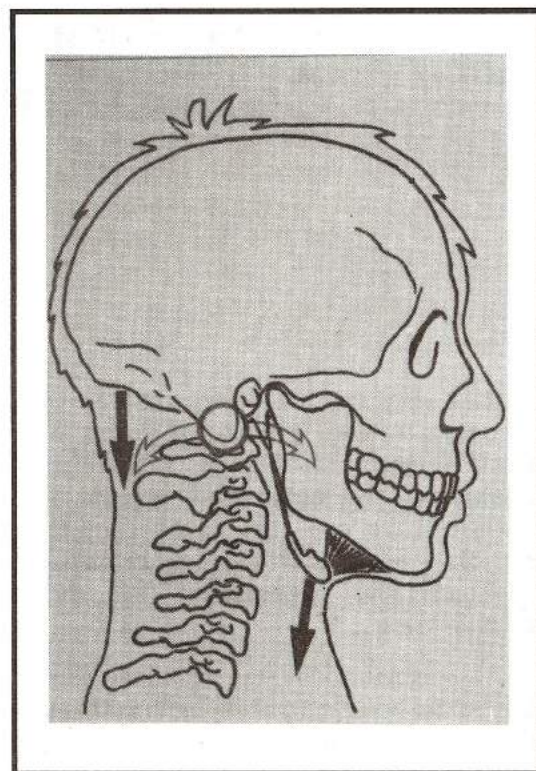


Figure 3 - Myofacial Closed Chains



*Figure 4 - Hyoid Joint -
Occipital - Atlod Joint*

functional stimuli reach the brain through the proprioceptors, become organized, and return to the muscles with the new information and instructions. By establishing these normal patterns, normal articular function can also be achieved because of the improvement in the peripheral information available.

affect postural stability through movement at the muscular insertion and through tone changes. Any lack of balance in these functions can cause certain disorders due to pathogenic defensive adaptation, such as can be observed in abnormal oral posture, swallowing, or breathing. These seem to induce an antagonistic balance and thus play a very important role in the onset of TMJ problems.

Myofunctional and physical therapy provides a solution for such dysfunctional problems through the feedback mechanism and the proprioceptors. Establishing or restoring normal deglutition and respiration causes changes in tendinous and muscular elasticization, the stretching and flexing contractions that occur with vertebral column mobilization, and peripheral blood recall, as well as in muscular patterns. The new

CASE REPORTS

Two women with similar cranio-cervical-mandibular disorders were selected to illustrate this article. They received similar treatment, with slightly different therapy techniques addressing individual needs and situations.

First case: A nineteen year old girl, presenting with an abnormal swallowing pattern, mouth breathing, and altered head, neck, and body posture. She had previously had four bicuspid extractions and orthodontic treatment. Trigger pain points involved mainly the muscles related to the temporomandibular joint (fig. 5). These (trigger points) are to be considered alarm areas, caused by the dysfunction, with pain and tension symptomatology. After having diagnosed that postural changes were due to pathological muscular compensation, which followed the feedback mechanism mentioned above, physical and myofunctional therapy

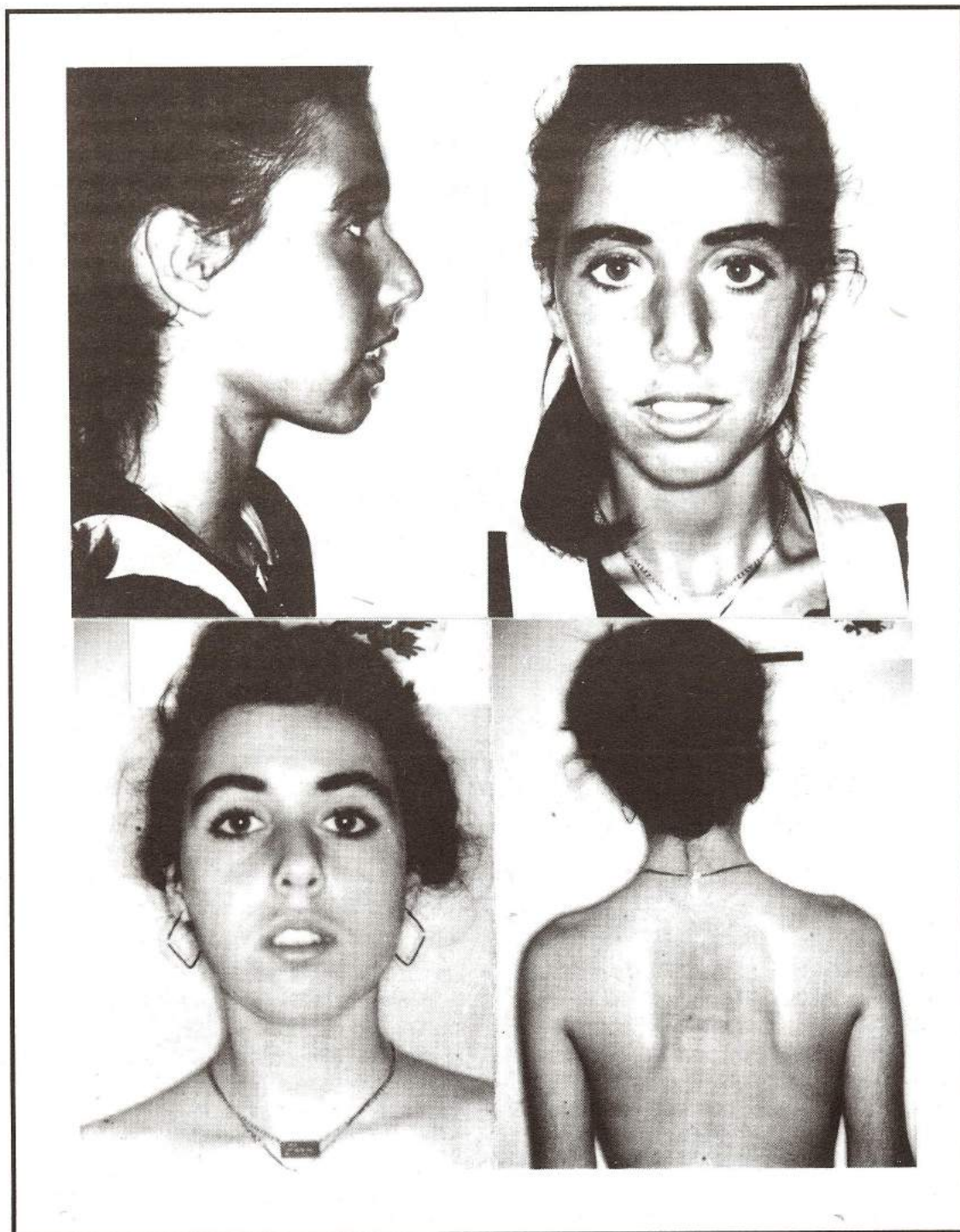
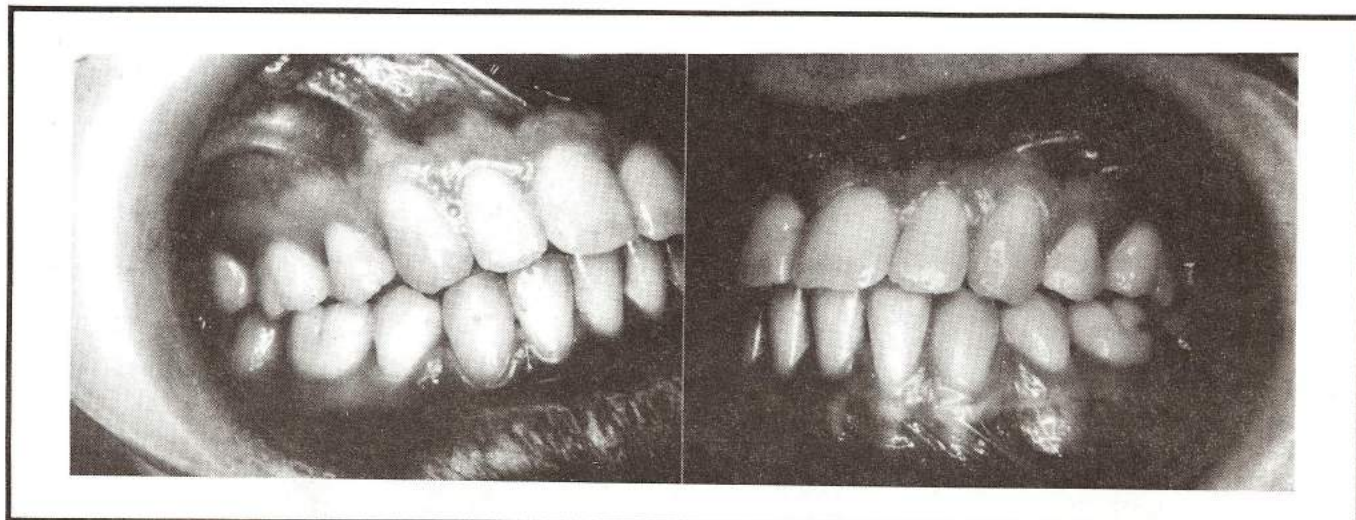
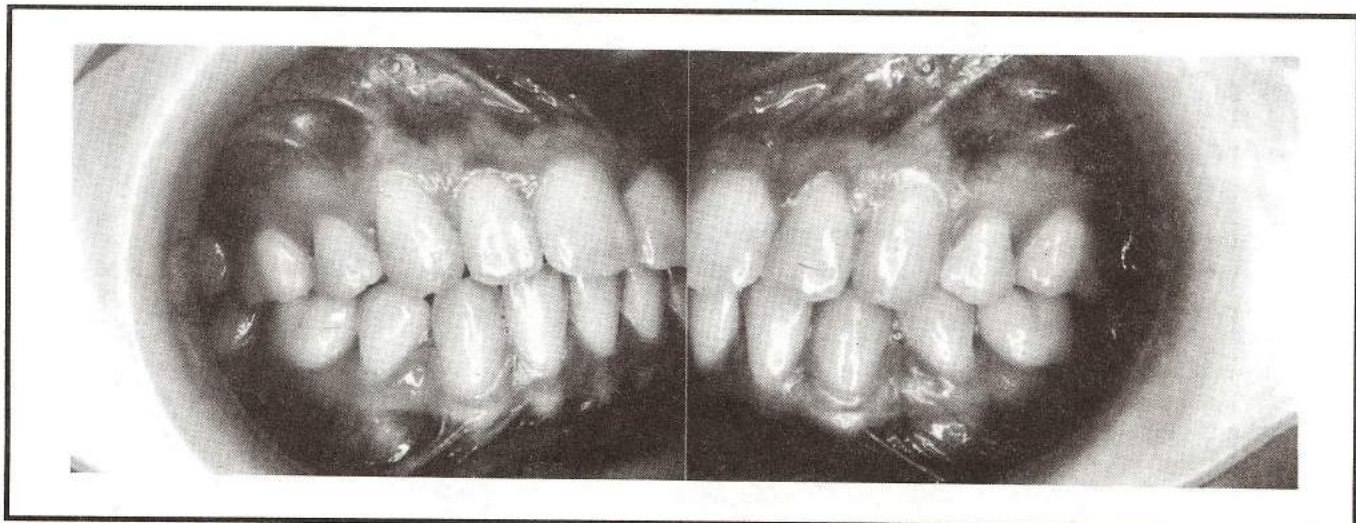


Figure 5 - Case I

*Figure 6 - Case I**Figure 7 - Case I - Eight months after original photographs.*

began with the cranio-vertebral-mandibular reposte corrective techniques described by numerous clinicians (2, 3, 5, 8, 9, 10, 11).

Exercises to correct the body posture, began with the patient lying down and doing stretching and flexing activities. The exercises targeted correction of the pelvis posture, the unlevelled shoulders, the winged scapulae, the forward head position, and the auxiliary hypertonic masticatory muscles.

The reposte was completed by specific attention to the orofacial musculature, with specific exercises for the tongue and lip muscles. A new functional occlusion was achieved with these exercises. After the correction of the swallowing pattern, and temporomandibular and postural myofunctional therapy (treatment duration: 8 months), all the symptomatology disappeared and the occlusion assumed a normal relation (Figs. 6 & 7). No

further treatment was required.

Second case: a twenty-eight year old woman, presenting with abnormal swallow, a functional posterior mandibular rotation shown by the increase of the articular mandibular angle, and pain symptoms (Fig. 8). The patient was treated with myofunctional cranio-cervical-mandibular therapy, which included lip exercises, tongue toning and posture exercises, and swallowing and breathing exercises. The reposte treatment was similar to the first case, i.e., concentrating first on the "modus agendi" of the cranio-vertebral-musculature and second on the "modus agendi" of the orofacial musculature. The duration of myofunctional and physical therapy treatment in this 2nd case was 12 months.

In this case, also, our approach was holistic. The treatment continued with phonetic exercises and Shiatsu treatment (digital pressure at pain trigger points). The

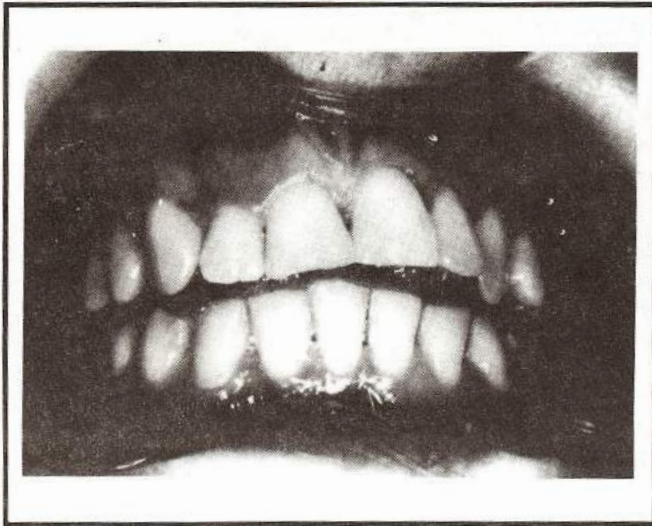


Figure 8 - Case II

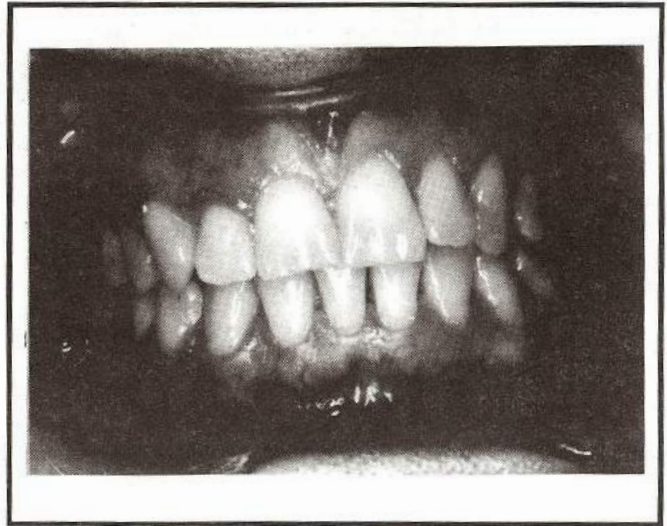


Figure 9 - Case II - Twelve months later.

symptoms disappeared and the new occlusion remained stable once it was established (figs. 9). No further treatment was required.

SUMMARY

It can be stated that in TMJ dysfunction, the muscular "modus agendi" must be altered with orofacial-cranio-cervical-mandibular therapy techniques before the occlusal problems can be stabilized. Only then can any remaining occlusal problems be successfully addressed, if necessary, through selective grinding, orthodontics, or prosthodontics. Two successfully treated cases have been presented to confirm this statement. In both cases the illustrated improvements in occlusion took place without further dental or orthodontic treatment.

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